

**REMARKS**

Claims 1, 2, and 4-11, and 14-20 are all the claims pending in the application. The independent claims have been amended, without including any impermissible new matter. The subject matter of dependent claim 3 has been added to independent claim 1, and claim 3 has accordingly been canceled.

***Claim rejection under 35 U.S.C § 101***

The Examiner rejected claims 1-4 under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention. The Examiner claims that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing.

Independent claim 1 has been amended so that a particular apparatus is claimed. Independent claim 4 is amended so that a manufacture is claimed.

In view of the amendments, Applicant submits that claims 1-4 comply with 35 U.S.C. § 101 and request the Examiner to withdraw the rejection.

***Claim rejection under 35 U.S.C § 112, second paragraph***

The rejection of claim 16 is respectfully submitted to be overcome by providing the previously lacking antecedent basis in independent claim 1. Applicant therefore respectfully requests the Examiner to withdraw this rejection.

***Claims rejected under 35 U.S.C § 103***

Claims 1, 4, 5, 6, 9, 10, 14 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946).

Claims 3 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946), applied to claims 1 and 6, and further in view of Argaman et al (US Patent Publication No. 2006/0052065).

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946), applied to claim 6, and in further view of Isokangas (US Patent Publication No. 2004/0213297).

Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946), applied to claim 14, and in further view of Dent (US Patent No. 6,061,568) hereinafter Dent '568.

Claims 11, 12 and 13 are rejected under 35 U.S.C. § 103(a) Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946), applied to claims 1 and 12, and in further view of Mimura (US Patent No. 6,021,123).

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946), applied to claim 14, and in further view of Dent (US Patent Publication No. 2001/0012280) hereinafter Dent '280.

Claims 16 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent

Publication No. 2006/0121946) and Mimura (US Patent No. 6,021,123), applied to claims 14 and 12, and in further view of Yun et al (US Patent No. 5,886,988).

Claim 20 is rejected under 35 U.S.C § 103(a) as being unpatentable over Dahlman et al (US Patent Publication No. 2002/0145988) in view of Walton et al (US Patent Publication No. 2006/0121946), as applied to claim 1, and in further view of Isokangas et al (US Patent Publication No. 2004/0213297) and Katz (US Patent No. 6,763,237).

Applicant respectfully traverses all these rejections, first with respect to independent claim 1, as now amended.

Claim 1

In claim 1, first signals are sent over dedicated channels. These signals are sent over only an assigned one of a plurality of carrier frequencies, using a power amplifier and an antenna. Which power amplifier is used, and which antenna is used, is determined according to a transmission diversity scheme. The signals sent over the dedicated channels can be sent with different power amplifiers, and different antennas, depending on the particular transmission diversity scheme implemented.

In claim 1, second signals are sent over shared channels. These signals are sent over only an assigned one of a plurality of carrier frequencies, using only one of the amplifiers, and only one of the antennas. Which power amplifier is used, and which antenna is used, is determined according to a multi-user diversity scheme. So, the signals sent over the shared channels are sent to a given user equipment on particular a power amplifier and antenna that stays the same, depending on how the user equipment was assigned a carrier frequency in the multi-user diversity scheme.

Claim 1 thus provides two diversity schemes: a transmission diversity scheme for dedicated channels (i.e., multiple antennas), and a multi-user diversity scheme for shared channels (i.e., split up the users into groups). By virtue of the multi-user diversity scheme, the non-real time signals can be scheduled in constructive fades and can be sent without the need for using transmission diversity for the shared channels.

The prior art references, taken alone or in any combination, do not teach or suggest a method as set forth in claim 1. Dahlman lacks a multi-user diversity scheme for shared channels. It seems that the prior art reference that is thought by the Examiner to come closest to compensating for this deficiency of Dahlman is Mimura.

Mimura, however, assigns all the mobile stations MS<sub>j</sub> to one group (abstract). Second, although Mimura discloses selecting a frequency for a channel from a second group when the channel use rate exceeds 95% (col. 12, lines 57-65), this is not at all the same as a multi-user diversity scheme. A multi-user diversity scheme is still a *diversity* scheme and therefore seeks to spread out some kind of load over multiple components in a roughly even manner. The Mimura approach is an *overflow* scheme because it flows traffic over to another channel when one approaches maximum capacity. An overflow scheme is not a diversity scheme.

Using Mimura's approach together with that of Dahlman would have resulted in a system imbalanced in the use of the power amplifiers with respect to the shared channels. This not only fails to meet the express requirements of claim 1, as now amended, but also frustrates many of the stated purposes mentioned in Applicant's originally-filed specification.

For the foregoing reasons, Applicant respectfully submits that claim 1 patentably distinguishes over the combined teachings of Dahlman, Walton, Mimura, and the rest of the applied references.

Applicant therefore respectfully requests the Examiner to withdraw this rejection of independent claim 1, as well as its dependent claims.

Claims 1, 5, 6, and 10 patentably distinguish over the applied references because each claim requires both a transmission diversity scheme for dedicated channels and a multi-user diversity scheme for shared channels. For reasons similar to those already mentioned with respect to claim 1, therefore, Applicant respectfully submits that the rejection of claims 5, 6, 10, and their respective dependent claims should be withdrawn.

Claim 15

In addition, Applicant submits that dependent claim 15 is patentable. The Examiner concedes that Dahlman in view of Walton fail to disclose or suggest the limitations of claim 15. Instead, the Examiner maintains that Dent '568 makes up for the deficiency and teaches a concept of assigning first and second transmission frequencies in a alternating way, wherein when a UE becomes active the first carrier frequency is assigned to the UE, and when a next UE becomes active the second carrier frequency is assigned to the next UE. Applicant disagrees for the following reasons.

First, Applicant notes that Dent discloses assigning only one channel on a first come first basis to a plurality of mobile stations (col. 4, lines 29-33) and that Dent '568 fails to disclose or suggest alternating between assigning a first carrier frequency and a second carrier frequency. Second, Applicant notes that the object of Dent's '568 invention is to assign a channel on a first come first basis to reduce system-wide co-channel interference (col. 4, lines 29-33). On the other hand, an exemplary object of the present invention may be to balance the load of the power amplifier by assigning first and second transmission frequencies to UEs in a alternating way. Therefore, in addition to not disclosing or suggesting assigning first and second transmission

frequencies in a alternating way, Applicant submits that Dent '568 teaches away from the present invention.

For at least the reasons submitted above and by virtue of its dependency from claim 1, Applicant submits that claim 15 is patentable.

Conclusion and request for telephone interview

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: April 13, 2009

/Kelly G. Hyndman 39,234/  
Kelly G. Hyndman  
Registration No. 39,234